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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,840	08/27/2003	Willibrord A. Groten	CDT 1612 CON	7024
1338	7590	12/20/2004	EXAMINER	
KENNETH H. JOHNSON P.O. BOX 630708 HOUSTON, TX 772630000			GRIFFIN, WALTER DEAN	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/649,840

Applicant(s)

GROTEN, WILLIBRORD A. 

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

The rejection of claims 13-24 under 35 USC 103 as described in the paper mailed on June 30, 2004 has been withdrawn in view of the response filed on October 29, 2004. The applied reference of Chapus does not disclose or suggest the transformation of light sulfur-containing compounds. Accordingly, the arguments related to this rejection are considered to be moot and will not be addressed.

A new rejection follows.

### ***Claim Objections***

Claims 20-22 are objected to because of the following informalities: In the first line of each of claims 20-22, the expression "one of" is unnecessary and should apparently be deleted. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Didillon et al. (US 2002/0153280 A1).

The Didillon reference discloses a process for producing gasolines with low sulfur contents. The process comprises the selective hydrogenation of diolefins that are present in the starting gasoline. The process also comprises subjecting the starting gasoline or the gasoline that has been subjected to the selective diolefin hydrogenation step to a step in which the sulfur compounds present in the gasoline are transformed into heavier sulfur compounds. These selective hydrogenation and sulfur transformation steps may be carried out simultaneously in the same reactor. The process also includes a step in which the gasoline is separated into a light fraction and a heavy fraction. This heavy fraction is then subjected to a desulfurization treatment. The desulfurization treatment includes a stage in which sulfur compounds such as thiophenic compounds are transformed into saturated compounds. These saturated compounds are then converted into hydrogen sulfide. See paragraphs [0035]-[0043] and [0091]-[0098].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 18, 19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Didillon et al. (US 2002/0153280 A1) in view of EP 0725126 A1.

The Didillon reference discloses a process for producing gasolines with low sulfur contents. The process comprises the selective hydrogenation of diolefins that are present in the starting gasoline. The process also comprises subjecting the starting gasoline or the gasoline that has been subjected to the selective diolefin hydrogenation step to a step in which the sulfur compounds present in the gasoline are transformed into heavier sulfur compounds. These selective hydrogenation and sulfur transformation steps may be carried out simultaneously in the same reactor. The process also includes a step in which the gasoline is separated into a light fraction and a heavy fraction. This heavy fraction is then subjected to a desulfurization treatment. The desulfurization treatment includes a stage in which sulfur compounds such as thiophenic compounds are transformed into saturated compounds. These saturated compounds are then converted into hydrogen sulfide. See paragraphs [0035]-[0043] and [0091]-[0098].

The Didillon reference does not disclose the separation of the gasoline into three fractions and then transforming the sulfur compounds in the light and/or intermediate fraction.

The EP reference discloses that sulfur compounds are distributed throughout the boiling range for gasoline and that fractions containing one type sulfur compound are handled separately from other fractions containing other types of sulfur compounds. See page 3, line 12 through page 4, line 44.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Didillon by separating the gasoline into three fractions and separately treating the fractions as claimed because it is known, as shown in the EP reference, that sulfur compounds are distributed throughout the boiling range of the gasoline and one would separate the gasoline into more than two fractions in order to treat the fractions more effectively and efficiently than if only two fractions are recovered and treated.

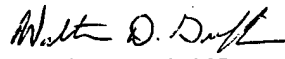
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG

December 14, 2004